

ABSTRACT

Liquid suspensions of particles in non-aqueous solvents are extremely stable over long periods of time with minimum separation of the solvent and no hard packing of the dispersed particles. The suspensions enable a user to rapidly add the suspension to water and to mix at low speeds without generating fugitive dust in the process. In addition, a liquid dispersion can provide an easy to use liquid containing higher concentrations of the active dispersed phase than can be accomplished by simply preparing an aqueous solution of the dispersed phase.

Alternatively, highly water-soluble particles may also be suspended which have poor storage, freeze/thaw, or heat/cool stability. In some cases, liquid dispersions can yield controlled release of the dispersed phase because the dispersed phase is not in aqueous solution. The suspensions are environmentally safe and biodegradable and may be used in environmentally sensitive applications, such as for oil well treating fluids for offshore areas. The suspensions exhibit minimal oil or grease upon dilution and contain no surfactants that which can sometimes add to the oil and grease determination. The suspensions and the fluids produced by diluting the fluids to a working concentration of dispersed phase exhibit low toxicity to marine organisms and to humans. The suspension can be manufactured from ingredients suitable for use in personal care applications, such as cosmetics, shampoos and the like; from ingredients suitable for use in indirect contact with food; and from ingredients that are exempt from regulations as adjuvants for agricultural pesticides.